Seiler (C.)

SOME REMARKS ON THE DIAGNOSIS AND TREATMENT OF INCIPIENT PHTHISIS.

Read before the Philadelphia County Medical Society, May 12th, 1880.

BY CARL SEILER, M.D.

Lecturer on Diseases of the Throat at the University of Pennsylvania.

THE subject of the diagnosis and treatment of phthisis has been so often and so extensively discussed that I feel some hesitancy in again bringing it forward; and I would not do so if I had not something to offer which I think has as yet not received sufficient attention from the general practitioner, and which, if fully recognized, will aid him very much in the treatment of this wide-spread malady.

The diagnosis of the earliest stages of phthisis, when but little structural change has as yet taken place in the tissue of the lung, is, as we all know, often very difficult, because both percussion and auscultation give almost negative results. In this stage, as well as in later stages of the disease, the mucous membrane of the larynx affords in almost all cases an index to the condition of the lungs; and the changes which have taken place in the color and shape of the larynx are so characteristic that when once seen they are not easily forgotten or mistaken for anything else.

These changes consist, first, in a peculiar ashy-gray discoloration of the mucous membrane lining the pharynx and larynx, which is different from the mere anæmic paleness so often seen in other diseases, and is very difficult to describe, but when once seen is not easily forgotten.

Second, they consist in a peculiar swelling of certain parts in the larynx, especially of the arytenoid cartilages and epiglottis, which differs materially in shape and appearance from ordinary œdema of the parts. The arytenoid cartilages, either on one side or the other, or on both sides, assume the shape of a pear, the largest amount of swelling being near the inter-arotenoid commissure, while it tapers off in the line of the ary-epiglottic folds. Usually we notice this pyriform swelling on that side which corresponds with the lung most affected, but occasionally we find cases in which the reverse is true. Less frequently we find a *turban*-like swelling of the crest of the epiglottis, which at the same time assumes a horseshoe bend. These two conditions have been observed to stand in a certain relation to the disease of the lungs, so that in the cases where we observe the pyriform swelling of the arytenoid cartilages

the lung-tissue has not as yet begun to break down; but as soon as the breaking down takes place in the lung the epiglottis begins to be affected. In the literature of the subject I find that but two authors (Cohen and Seiler) make mention of these facts, while all others either do not refer to them at all or merely hint at them by speaking of the phthisical œdema of the larynx.

In the laryngeal mirror these swellings do not give to the observer the impression of simple œdematous tumefaction, and free scarification of the parts does not relieve the symptoms—aphonia and dysphagia—caused by them.

Microscopical examination of a number of larynxes showing these swellings reveals the fact that the loose submucous tissue is largely infiltrated by a small-celled infiltration, with a tendency to the formation of depôts with cheesy centres, and, what is rather remarkable, an hypertrophy of the glands and follicles, so as to amount almost to an adenomatous growth. There is also a certain amount of serous infiltration into the net-work of the submucous tissue, which only tends to increase the swelling. It is true there are some few cases in which the larynx does not participate in the lung disease, and where we do not find either the pyriform swelling or the turban and horseshoe shape of the epiglottis, and, strange as it may seem, these latter cases are more frequently affected with acute tuberculosis than with pulmonic phthisis.

Frequently, after having seen the laryngeal evidences of phthisis, I have been unable to obtain signs of lung disease by the ordinary methods of auscultation and percussion. Only by percussing the lung as a whole, so as to obtain the fundamental tone of the air contained in the whole lung, have I been able to demonstrate a variance between the two lungs greater than in health, or a decided difference in pitch between the diseased lung and a healthy one, taking size and chest-expansion of the patient into consideration.

The pitch of the percussion-note, even when small areas of the lung are examined, forms the best and surest indication of changes taking place in the lung-tissue, and it is much more easy to remember it than a peculiar character of the tone, because we can give it a place in the musical scale and thus write it down, which we cannot do with a peculiar timbre or quality of tone. I am fully aware that but few persons, not musicians are able to place any tone in its proper place in the musical scale without the help of some instrument upon which they can sound a tone corresponding to the tone to be located, and I have found that the so-called xylophone is the best means for placing or recording the percussion-pitch of the chest, because the little pieces of wood when struck lightly with a

wooden hammer covered with some soft substance, such as cloth or felt, will give a tone remarkably like the percussion-note of the chest. By tapping one after the other of the pieces of wood composing the xylophone, we can easily find the one which corresponds nearest in pitch to the percussion-note, and thus can identify it. A change for the better or worse, indicated by a fall or rise in the pitch of the percussion-note, can thus be determined with great accuracy at a subsequent examination of the patient.

The treatment of cases of pulmonary phthisis which has of late been adopted by myself and others, and which has been crowned with remarkable success, is based upon a clear understanding of the pathological changes taking place in the lung-tissue.

If a section of lung from a patient who has suffered from chronic pneumonia be placed under a microscope, it will be found that the air-cells are filled with a granular débris, in which large, swollen epithelial cells, in various stages of fatty degeneration, may be seen. These cells, which originally lined the inner surfaces of the air-cells, have become loosened from their site, thus leaving the walls denuded of their protecting covering. These unprotected walls, being in close contact with the products of decomposition taking place in the débris of infiltration, must necessary yield to their corroding influence and break down, so that soon two neighboring air-cells merge into one. It is evident that a lung or portion of a lung thus infiltrated cannot supply the necessary oxygen to the blood, nor can it eliminate the carbonic acid, and the effect of this soon becomes evident in a general lowering of vitality, which, if a predisposition exists, leads to the formation of tubercles in the part of least active circulation,—the affected lung.

We see, therefore, at a glance that if we can remove the obstruction to the entrance of air into the air-cells, we may hope for a regeneration of the epithelial covering of these air-cells and a re-establishment of the normal function of the lung, which, if the lowered vitality be raised by proper nourishment, may become permanent in time.

This I have in a number of cases found to be possible by simple inhalations of some slightly stimulating vapor and by the administration of rich animal food, both internally and *externally.*

The *manner* in which the inhalations are taken is of very great importance, and the directions which I give my patients are, to inhale from any convenient vessel, such as a teapot or a funnel placed over a cup, or from an inhaling-bottle containing a mixture of hot water and tar, tinct. benz. comp., balsam

of tolu, or something similar, with a deep inspiration, so as to fill all available space in the lung, and then to hold the breath as long as possible. In order to insure this latter direction, I tell patient to count the number of seconds he can hold his breath, thus making him cognizant of the improvement which is sure to follow within a few days.

The effect of such forcible inhalation is to force a small amount of air into the obstructed air-cell, which, in the form of a small bubble, insinuates itself into the centre of the semi-fluid mass of débris. The subsequent forcible expiration will cause this air-bubble to seek an outlet, and in doing so will force a small portion of the débris into the capillary bronchus in connection with the air-cell. This is repeated over and over again until the amount of air in the formerly completely obstructed air-cell is sufficient in quantity to force the plug of débris into the larger bronchioles, from whence it is expectorated. A proof of this theory may be found in the fact that the expectoration of the patient soon becomes white and frothy where it had previously been yellow and viscid, and also that after a few weeks the pitch of the whole lung will be found lower on percussion, indicating that a greater amount of air is contained in it.

Besides these medicinal inhalations, the respiration of plenty of fresh air, both day and night, and moderate exercise in the open air, are strongly to be recommended. One of the principal causes—in my estimation at least—of the great lowering of the vitality of the whole system must be looked for in the retention of a large amount of effete material which cannot be thrown off by the lungs. The skin must therefore be made to act as the main channel through which this waste material is carried out of the system, and at the same time may with advantage be made use of to carry new and nutritous material into the system, especially when the digestive organs are weakened.

Great benefit will be found from daily inunctions of oil over the chest and back, and from rubbing whisky into the skin of the arms and legs of the patient.

The local lesions in the larynx should be treated according to well-known principles, and very great relief can thus be afforded the patient from the often distressing symptoms. Internally, cod-liver oil, alcoholic stimulants, extract of malt and beef, as well as tonics, should be exhibited; but care should be exercised so as not still more to derange digestion; and for that reason expectorants and syrups of any kind should be avoided, especially as they can be of little use.